Cervical Cancer Screening in Enugu, Nigeria.

Leonard I. Chukwuali, Wilson I.B. Onuigbo and Nnenna C. Mgbor
[1]Department of Obstetrics and Gynaecology, Federal Medical Centre, Keffi, Nasarawa State, Nigeria; [2]Department of Pathology, National Orthopaedic Hospital, Enugu, Nigeria and [3]Department Otorhinolaryngology, College of Medicine, University of Nigeria, Enugu Campus, Enugu, Nigeria.

Abstract

Context: Though preventable by early detection and treatment of the pre-invasive stage, carcinoma of the cervix remains the commonest gynaecological malignancy in Nigeria and a leading cause of death among women. The preventive role of cervical cancer screening is directly related to the proportion of the population screened.
Objective: To present the results of cervical cancer screening by Pap smear in a highly subsidized screening centre in Nigeria and to determine the characteristics of the women with positive cervical smear.
Study Design: A ten-year descriptive analysis of women availing themselves of the cervical cancer screening service at the Medical Women Centre in Enugu, South Eastern Nigeria.
Main Outcome Measures: Women's response; the proportion and characteristics of women with abnormal smears.
Results: Over a ten-year period (1991-2000), 815 women had Pap smears at the Medical Women Centre in Enugu of whom only 4 (0.5%) ever had a previous smear. The prevalence of abnormal smears was 12.2%, the proportion rising with increasing age and doubling after the age of 54 years. All the women with positive smears were or had been coitally active; 97% were parous and 81% grand multiparous.
Conclusion: The utilisation of the subsidised cervical cancer screening service in Enugu is very poor. The high prevalence of positive smears and the increased rates with increasing age may be related to the absence of an effective screening programme in Nigeria. Collective effort to increase the number of women screened is advocated, pending the establishment of a national cervical cancer-screening program.

Key Words: Cervical Cancer, Screening, Papanicolaou Smears. [Trop J Obstet Gynaecol, 2003, 20: 109-112]

Introduction

Although invasive carcinoma of the uterine cervix is preventable, it remains the commonest pelvic malignancy in Nigeria [1, 2] and a leading cause of death among women in the tropics [3]. George Nicholas Papanicolaou (1883-1962) laid the original foundation for prevention of invasive carcinoma when, in 1941, he described a cytological method for the detection of pre-invasive lesions. Though other methods for the detection of pre-invasive lesions of the cervix have been described such as human papilloma virus (HPV) DNA testing, cervicography, speculoscopy, polarprobe, aided and unaided visual inspection (AVI & UVI) [4, 5], the Pap smear remains the most cost-effective approach to cervical cancer screening worldwide.

Since there are cheap and effective methods of treatment for pre-invasive cervical lesions, cervical cancer screening is known to reduce the incidence of, and mortality from, invasive cancer of the cervix to an extent directly related to the proportion of the population screened. To ensure that most women benefit from cervical screening services, most developed countries have put in place effective screening programmes; but this is not the case in most developing countries where opportunistic screening remains the practice. However, there appears to be lack of interest in opportunistic screening among Nigerian gynaecologists [7]. In order to increase the number of women screened, a plea has been made for an increased opportunistic screening by Nigerian gynaecologists and a suggestion made that cervical cancer screening be included in pre-employment examination [8].

In pursuance of a better coverage in cervical cancer screening, the Medical Women Association of Nigeria (MWAN) in Enugu, South Eastern Nigeria established a highly subsidised screening centre in the late 1980s with cytological services provided by one of the authors. The center was established as a well-woman clinic and also provided screening services for breast cancer, hypertension and diabetes mellitus. In this paper, we present the results of cervical cancer screening at the Medical Women Association Centre, Enugu over a ten-year period.

Correspondence: *Dr. L.I. Chukwuali, Department of Obstetrics & Gynaecology, Federal Medical Centre, Keffi, Nasarawa State, Nigeria*
E-mail: drleochukwuali@doctor.com

Patients and Methods

The Pap smear results of women attending the MWAN Enugu Centre over a ten-year period (1991-2000) were reviewed by one of us (LIC). The usual practice at the Centre was that after necessary counselling, a trained matron collected the Pap smear using the Ayre's spatula. The smear was spread evenly on a glass slide and immediately fixed in 95% alcohol. At the same time, an endocervical swab was taken for microbiological studies; any organisms cultured were treated according to sensitivity results following which the smear was repeated. In the main, one of us (WIBO) examined the slides after appropriate staining. The report was in 5 categories:

(1) Inadequate smear
(2) Negative
(3) Inflammatory
(4) Dyskaryosis and
(5) Suspicious of Invasion.

In this study, smears showing dyskaryosis and those suspicious of invasion are classified as positive. Clients with positive smears were referred to the Obstetrics & Gynaecology Clinic of the University of Nigeria Teaching Hospital, Enugu for further treatment. The response of the cohort over the period under review, the Pap smear results and the characteristics of the women with positive smear are presented here.

Results

Over the ten-year period under review, 815 women had Pap smears at the MWAN, Enugu centre. Out of this number, only 4 women (0.5%) had one previous smear each prior to coming to the centre.

The annual breakdown of the Pap smear results is shown in Table 1. The increased number of clients from 1995 to 1999 was in apparent response to an orchestrated media campaign by the Medical Women Association Enugu in the early 1990s. Ninety one women (12.2%) had positive smears, comprising 85 cases of dyskaryosis (85.9%) and 14 smears (14.1%) suspicious of invasion

The proportions of women in the different result categories is also shown in Table 1. For women with inflammatory smear and positive microbiological studies, it is the result of the repeat smear after appropriate treatment that is taken into account in this analysis.

Table 1

Annual Distribution of Pap Smear Results Among the Clients of the Centre, 1991-2000.

Year	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	Total (%)
Smear Finding											
Inadequate Smear	6	4	4	7	11	7	4	4	8	3	**58** (7)
Negative	13	10	11	23	45	42	42	47	73	50	**356** (44)
Inflammatory	20	12	16	34	48	34	47	40	26	25	**302** (37)
Dyskaryosis	-	3	5	9	15	17	14	12	7	3	**85** (10)
Suspicious of Invasion	1	1	2	3	3	2	1	-	1	-	**14** (2)
Total	*40*	*30*	*38*	*76*	*122*	*102*	*108*	*103*	*115*	*81*	**815** *(100)*

The age distribution of the women with positive smears is shown in Table 2. The three women under 30 years were aged 17, 27, and 29. The client aged 17 years was single and nulliparous but coitally active. The proportion of women with positive smears increased with increasing age and doubled after the age of 54 years. At 70 years and above, 50% of the women had positive Pap smear, although the absolute number is very small. All the women with positive smears were or had been coitally active but there was no information on the number of sexual partners. Overall, 97% of the women were parous and 81% grand multiparous.

Discussion

It raises great concern that only 815 women availed themselves of the highly subsidized cervical cancer screening service in Enugu over a ten-year period. Even after an intensive media campaign, the maximum number of clients in a year was only 122.

Table 2

Age Distribution of Women with Positive Smears

Age Group *(years)*	Number Screened	Number Positive *(%)*
<30	76	3 (4.0)
30-34	92	3 (3.3)
35-39	169	8 (4.7)
40-44	152	14 (9.2)
45-49	129	19 (14.7)
50-54	116	20 (17.2)
55-59	32	13 (40.6)
60-64	35	13 (37.2)
65-69	10	4 (40.0)
≥70	4	2 (50.0)
Total	***815***	***99 (12.2)***

In one survey in which 92.4% of the respondents had never had a Pap smear, majority of them claimed that they would avail themselves of a free Pap smear [8]. The authors however observed that the problem of poor utilisation of cervical cancer screening services in Nigeria appeared to be more psychosocial than cost. The poor utilisation of a highly subsidised screening service as found in this study agrees with the above observation. Poor preventive health consciousness and the fear of positive results [8, 9] have been adduced as possible reasons for the low patronage of cervical cancer screening services in Nigerian.

The percentage of positive smears in this study (12.2%) is high when compared with 9.7% reported from Ibadan[10]. However, both results are close to the worldwide estimate of 10% [11]. In a review of the national cervical cancer-screening programme of the United States of America [12], a mere 3.8% of the women had positive cervical smears. Apart from factors such as race and social class, the wide difference between the prevalence of positive Pap smears in Nigeria and the United States may be partly explained on the basis of poor cervical cancer consciousness and the absence of a national screening programme in Nigeria. More than 60% of the women in the United States study had a previous Pap smear, unlike in this study where only 0.5% of the women ever had a previous smear. An increased cervical cancer consciousness among Nigerian women, followed by regular Pap smears will, over the years, reduce the prevalence of positive smears in our women.

The detection of pre-invasive cervical lesion in a 17-year old girl lends credence to the recent recommendation that screening should start shortly after coital debut even before the age of 18 years [13]. The oldest woman with a positive smear in this series was 75 years old, demonstrating that there should be no upper age limit for the first smear. Even in centres with functional screening programmes, the old recommendation that screening should stop at age 70, if three previous consecutive smears were negative, is being set aside for life-long screening. This is supported by the observation that, above 65 years of age, the chance of developing invasive cervical cancer is not necessary related to prior screening habits [13].

The increasing prevalence of positive cervical smear with increasing age is in agreement with the observation of DiSaia and Creasman [13], although it contrasts sharply from that of Lawson *et al* who reported a sharp decline in abnormal smears with increasing age [12]. It should be noted, however, that most of the women in Lawson's series were active participants in a well-organised screening programme. Early detection, evaluation and treatment of abnormal smears should lead to its declining prevalence with increasing age.

It is agreed that a national cervical cancer screening programme for Nigeria is overdue [7, 14]. With the low rate of opportunistic screening in Nigeria, it is expected that subsidising cervical cancer screening would have resulted in a significant increase in the number of women screened. This study has demonstrated a failure in meeting this expectation but this can be improved by concerted awareness campaigns. The initiative of one of us (NCM) and the past presidents of the Medical Women Association of Nigeria, Enugu Zone in maintaining a subsidised cervical cancer screening service is highly commendable. To increase the number of women screened, other organisations across the country are not only encouraged to follow this laudable example but also to maintain sustained cervical cancer awareness campaigns pending the establishment of a national cervical cancer screening programme.

References

1. Onuigbo WIB. Carcinoma of the uterine cervix in Nigerian Igbos. *Gynecol Oncol*, 1976; 4:255-258.
2. Pindiga UH, ElNafaty AU, Ekanem IA. Female genital malignancies in Maiduguri, Nigeria: a review of 328 cases. *Trop J Obstet Gynaecol* 1999; 16: 52-56.
3. Adelusi B, Smith JA, Junaid TA. Histological studies of carcinoma of the cervix uteri in Ibadan. *Afr J Med med Sci,* 1978, 7: 9-16.
4. Spitzer M. Cervical screening adjuncts: recent advances. *Am J Obstet Gynecol,* 1998; 179. 544-556.
5. Denny L, Kuhn L, Pollack A, Wainwright H, Wright TCJr. Evaluation of alternative methods of cervical cancer screening for resource-poor settings. *Cancer* 2000; 89: 826-833.
6. Boronow RC. Death of the Papanicolaou smear? a tale of three reasons. *Am J Obstet Gynecol* 1998; 179: 391–396.
7. Onah HE, Ezugwu FO, Eze JN. Cervical cancer screening: a survey of current practice amongst Nigerian gynaecologists. *Trop J Obstet Gynaecol* 2001; 18: 78-81.
8. Babarinsa IA, Adewole IF. Knowledge and attitude to utilisation of cervical cytology by female workers in a Nigerian teaching hospital. *Nig Med Pract,* 1998 35: 47-50.
9. Murray M, McMillan C. Health beliefs, locus of control, emotional control and women's cancer screening behaviour. *Br J Clin Psychol* 1993; 32: 87-100.
10. Omigbodun AO. Management of cervical intra-epithelial neoplasia where colposcopy is not available. *Cent Afr J Med,* 1991; 17: 7-11.
11. Kurman RJ, Henson DE, Herbst AL, Noller HL, Schiffman MH. Interim guidelines for management of abnormal cervical cytology. *JAMA* 1994; 271: 1866-1869.
12. Lawson HW, Lee NC, Thames SF, Henson R, Miller DS. Cervical cancer screening among low-income women: results of a national screening program, 1991-1995. *Obstet Gynecol,* 1998; 92: 45-52.
13. DiSaia PJ, Creasman WT, Pre-invasive disease of the cervix. In: *Clinical Gynecologic Oncology. 4th Edition.* St. Louis, Missouri, Mosby Year Book Inc. 1993; 1-36.
14. Olaniyan OB, Agboghoroma OC, Ladipo OP, Knowledge and practice of cervical screening among female health workers in Governmental hospitals in Abuja metropolis, Nigeria. *Trop J Obstet Gynaecol,* 2000; 17: 18-20.